

RESEARCH ARTICLE

# Lycidae, Elateridae (Omalisinae), Prostomidae and Pyrochroidae in the Coleoptera collections of "Grigore Antipa" National Museum of Natural History with the first record of *Pyrochroa bifoveata* in Romania

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## Abstract

The paper deals with twelve species of Lycidae, Elateridae (Omalisinae), Prostomidae and Pyrochroidae from Romania. Photographs of male genitalia and abdominal segments of four specimens of *Pyrochroa bifoveata* Molfini, Mancini & Bologna, 2022 from Constanța, Brașov, Satu Mare counties and Bucharest are given. Distribution maps based on the examined material are presented for the twelve species.

## Keywords

checklist, faunistics, Lycidae, Omalisinae, Prostomidae, Pyrochroidae, Romania.

## Introduction

Lycidae, known as net-winged beetles is placed in the Elateroidea, one of the major clades of the suborder Polyphaga, which has undergone major changes in its family-level classification in recent decades, mostly due to advances in molecular phylogeny (Bocák et al. 2016; Chittaro et al. 2021). The lycids occur in all major regions of the world, but are most diverse and abundant in humid tropics (Bocák and Bocáková



2008). There are fifteen species in Europe (Bocáková and Bocák 2007) of which seven are cited for Romania, mostly uncommon species. Lycidae are terrestrial beetles with strong association with forest habitat. Moist shaded decaying microhabitats that promote microbial growth are typical for Lycidae (Bocák and Matsuda 2003 in Bocák and Bocáková 2008). Adults of most species avoid sunny places and remain under canopy, where they sit or sluggishly move on leaves or decaying wood. It seems that most adult lycids are short living and do not take any food in adult stage; only flower frequenting species consume nectar (Bocák and Bocáková 2008). Lycid larvae usually occur in dead wood in various stages of decomposition, in forest litter, and soil with high content of organic material (Bocák and Bocáková 2008). The larvae prey on other insect larvae and pupae (Geisthardt 1979).

Kusy et al. (2018) considered Omalisidae as Omalisinae in Elateridae, using phylogenetic analyses that indicate their terminal positions within the broadly defined well-sclerotized and fully metamorphosed Elateridae. Eight species are known from Europe (Bocák and Brlik 2008), one of which is recorded from Romania, namely *Omalisus fontisbellaquaei* Geoffroy, 1785. This species occurs very locally but it is not rare in some places and sometimes can be collected in large quantities. It lives in various habitats from xerothermous shrubs or oak forests to montane fir and beech forests (Bocák and Brlik 2008). The larvae prey on millipedes (*Glomeris* sp.) (Burakowski 1988 in Bocák and Brlik 2008).

In older studies *Prostomis* was treated as a genus of Cucujidae and therefore placed within Cucujoidea (Reitter 1911; Crowson 1953). Lawrence (1977), Lawrence and Newton (1982), Löbl and Smetana (2008) treated Prostomidae as a tenebrionoid family. In Europe, the prostomids, or red log beetles, are represented by three species (Courtin and Brustel 2024) of which only *Prostomis mandibularis* (Fabricius, 1801) occurs in the Romanian fauna.

Pyrochroidae is part of Tenebrionoidea and includes thirteen European species (Pollock and Young 2008; Young et al. 2020; Molfini et al. 2023) four of them being known for Romania. The adults of *Pyrochroa* and *Schizotus* are found mainly on flowering shrubs in woodland margins, on fallen or wind-blown trees, on dry branches. The larvae live under the bark of dry deciduous wood where they feed on other insects; sometimes they are cannibals if they can't find other insects under the bark (Kaszab 1969). The systematic position of the *Agnathus* is not yet clear and frequent transfers between various groups: Cleridae, Phytidae, Lagriidae, Cononotidae, Anthicidae, Pedilidae, Pyrochroidae incertae sedis, or as a distinct family Agnathidae (Bouyon and Van Meer 2004; Jelínek and Kubáň 2009). *Agnathus decoratus* (Germar, 1818) occurs in deciduous floodplain forests in Southern and Central Europe, where it inhabits trunks and logs of deciduous trees (alder, beech, oak, poplar, willow) partly submerged in water (Jelínek and Kubáň 2009).

The aim of this paper is to present a checklist and summarize data of the distribution of the Lycidae, Omalisinae (Elateridae), Pyrochroidae and Prostomidae in Romanian based on the "Grigore Antipa" Museum collections.



## Material and Methods

The Collection of Palaearctic Coleopterans includes 61 specimens from the families Lycidae (32), Pyrochroidae (19) and subfamily Omalisinae (10). All specimens were revised by the author. These old specimens came from the collections of Arnold Lucien Montandon (1852–1922), Eduard Fleck (dates of birth and death are unknown), Friedrich Deubel (1845–1933), Deszö Kenderessy (1846–1881?). Another 332 specimens belonging to Lycidae (197), Pyrochroidae (133) and Omalisinae (5) were sorted by the author from the so-called study collection. The study collection contains small batches of donations, specimens of beetle sorted by family and the miscellaneous category. After identification, the specimens were added to the Palaearctic Coleoptera Collection. On this occasion, twelve specimens of *Prostomis mandibularis* (Prostomidae) were also added to this collection. Among the specimens newly entered into the scientific collection, some of them were donated by Emil Váradi, Igor Ceianu, Vladimir Brădescu, Mihai Șerban Procheș, Viorel Ungureanu, Levente Székely, and the rest were collected by the specialists of the “Grigore Antipa” Museum during various faunistic projects in different regions in Romania: Maramureș region, southern Dobrogea, Putna–Vrancea Natural Park, Piatra Craiului National Park, Cheile Nerei–Beușnița National Park, Retezat National Park, Grădiștea Muncelului–Cioclovina Natural Park, Cozia National Park, Ciucas and Frumoasa (sites of community importance).

The specimens were examined with a Zeiss Stemi 2000–C stereomicroscope and were identified according to Reitter (1911), Kaszab (1969), Geisthardt (1979), Bocák and Brlik (2008), Baena et al. (2021), Molfini et al. (2023). The morphological analysis of male genitalia was performed on 14 specimens of *Pyrochroa bifoveata* (Molfini, Mancini & Bologna, 2022). Nomenclature follows the Catalogue of Palaearctic Coleoptera (Bocáková and Bocák 2007; Pollock and Young 2008; Schawaller 2008, 2020; Young et al. 2020), Bocák and Brlik (2008) and Kusy et al. (2018). For each species the examined material includes the number of specimens, localities, collecting date, and abbreviations of the collector's name. The material is presented in alphabetical order of the counties, and within them, chronologically. In the case of specimens collected from the same area, but in different time periods, the area is presented first, followed by the chronological presentation of the collecting date. The information in square brackets is a supplement to the data collected. For Romania the species of Lycidae and Pyrochroidae are recorded in the historical catalogues as well as *Omalisus fontisbellaquaei* (Elateridae: Omalisinae) and *Prostomis mandibularis* (Prostomidae): Bielz (1887), Kuthy (1896), Deubel (1925–1926), Fleck (1905 a, b), Montandon (1906) and Petri (1912). Most available data from the specialized literature were taken into account in the *Records* section. Here, the references are presented in chronological order. Geographical distribution is given according to the literature. Distribution maps (Figs 1–6 and Fig. 9) were created using Google Maps online resource (for localization) and QGIS Desktop 2.18.25 with GRASS 7.4.2. for final map drawing. The polygon map of Romania's counties ©ANCPI licensed



as part of an Open Governance project downloaded via <https://geo-spatial.org/vechi/download/romania-seturi-vectoriale>. The photographs of the genitalia of four *Pyrochroa bifoveata* males were taken using a Zeiss Stemi 2000–C stereomicroscope and a Samsung Galaxy S10 mobile phone attached to the stereomicroscope.

#### Abbreviations:

Name of the collectors: AD–Andreea Drăghici; ALM–Arnold Lucien Montandon; AP–Angela Petrescu; APe–Angela Petrișor; APG–Aurelian Popescu-Gorj; AR–Atena Roșca; CA–Costică Adam; CB–Cristina Ban; CC–Cristina Constantinescu; CH–Cristina Hoinic; CP–Corneliu Pârvu; DD–Dan Dumitrescu; DG–Dumitru Gîrlea; DK–Deszö Kenderessy; DL–Dochița Lupu; DR–Dorel Ruști; DV–Dimitrie Voinov; EF–Eduard Fleck; EI–Elena Iorgu; EM–Elena Mantu; EV–Emil Váradi; FD–Friedrich Deubel; GA–Gabriela Andrei; GC–Gabriel Chișamera; IC–Igor Ceianu; ID–Ion Drăghia; IM–Ioana Matache; IN–Ileana Negoescu; IS–Igor Sienkiewicz; IsC–Iosif Căpușe; LM–Liviu Moscaliuc; LS–Levente Székely; MS–Melanya Stan; MȘP–Mihai Șerban Procheș; MV–Maria Vasiliu; MW–Medeea Weinberg; MiS–Mihai Stănescu; NS–Nicolae Săvulescu; OPP–Oana Paula Popa; RC–Richard Canisius; RS–Rodica Serafim; ȘN–Ștefan Negru; VB–Vladimir Brădescu; VU–Viorel Ungureanu; XS–Xenia Scobiola.

#### Abbreviations of the county names in Romania:

AB–Alba; AG–Argeș; AR–Arad; B–București; BC–Bacău; BN–Bistrița–Năsăud; BH–Bihor; BR–Brăila; BV–Brașov; CJ–Cluj; CL–Călărași; CS–Caraș–Severin; CT–Constanța; DB–Dâmbovița; GJ–Gorj; GR–Giurgiu; HD–Hunedoara; HR–Harghita; IF–Ilfov; IS–Iași; MH–Mehedinți; MM–Maramureș; MS–Mureș; NT–Neamț; PH–Prahova; SB–Sibiu; SM–Satu Mare; SV–Suceava; TL–Tulcea; TM–Timiș; VL–Vâlcea; VN–Vrancea.

Other abbreviations: coll.–collection; d–dissection of the male genitalia; MGAB–“Grigore Antipa” National Museum of Natural History; Mt/Mts–Mountain/s; spec./specs–specimen/s; CPC–Collection of Palaearctic Coleopterans (before adding new species and specimens).

## Results and discussions

In the Collection of Palaearctic Coleopterans there are six species which belong to the family Lycidae, one to the subfamily Omalisinae, one to the family Prostomidae and four to the family Pyrochroidae. Of the seven species of net-winged beetles, known for Romania, *Benibotarus* (*Sibetarus*) *taygetanus* (Pic, 1905) does not exist in the collections. Horion (1953) cited the species from Banat (Mehadia, Herculesbad=Băile Herculane) under the name *Dictyopterus fiedleri* (Reitter, 1905). The distribution



maps of the twelve species are based on examined material and are given in Figs 1–6 and Fig. 9.

Family Lycidae Laporte, 1838

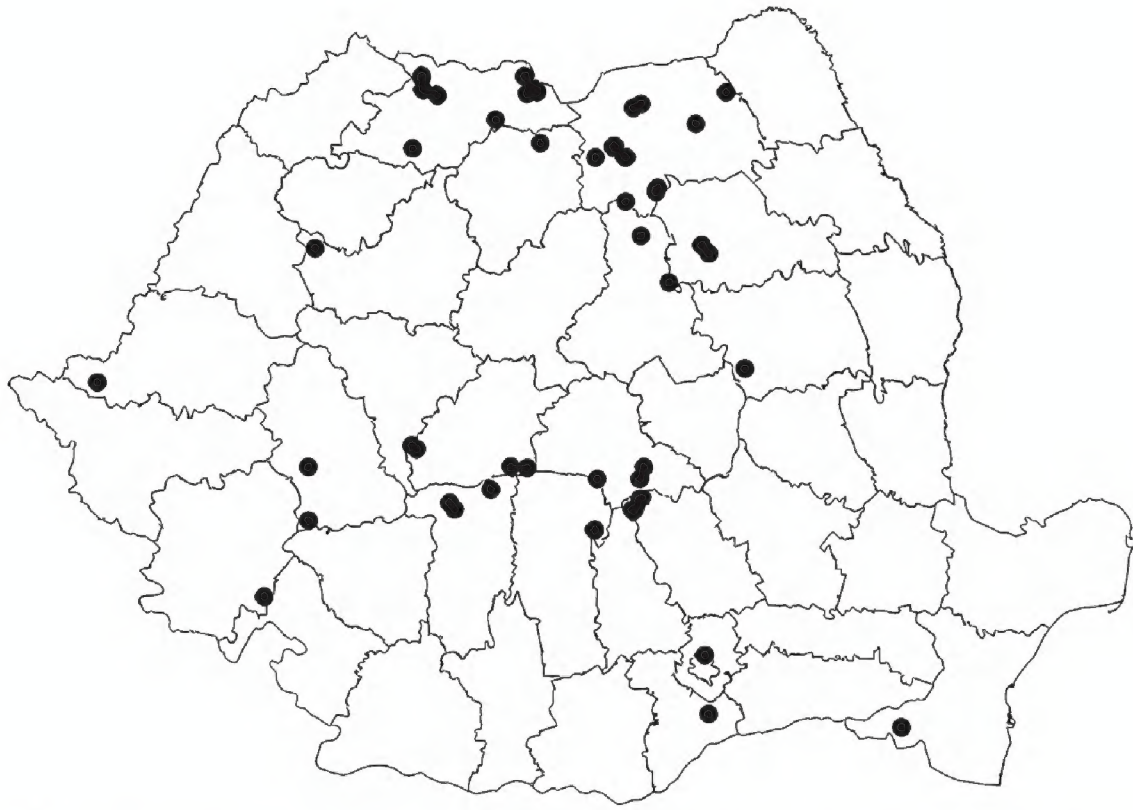
Subfamily Calochrominae Lacordaire, 1857

*Lygistopterus sanguineus sanguineus* (Linnaeus, 1758)

**Examined material:** 1 spec., Azuga, Carpathes, coll. ALM; 1 spec., Azuga, coll. EF; 3 specs, Broșteni, Carpathes, Moldavie, coll. ALM; 1 spec., Hátzéger Gbg. [Hațeg Mts], coll. FD; 1 spec., Hațeg, coll. DK; 1 spec., Kronstädter Gbg. [Brașov Mts], coll. FD; Nagy-Hagymás Gbg. [Hășmașul Mare Mt.], coll. FD; 1 spec., Schuler [Postăvarul] G.[ebirge], coll. FD (CPC); 2 specs, Fântânele Hill, 18.06.2015, LM (AB); 2 specs, Stoenеști, 7.07.1990, on Umbelliferae, MȘP (AG); 2 specs, Sânpetru German, 46°7.5'N, 21°0.432'E, 5.07.2023, CA (AR); 10 specs, Băneasa, 2.05.1951, NS (B); 1 spec., Slănic Moldova, 10.06.1971, MW (BC); 2 specs, Rodna Mts, Anieșul Mic valley, 15.07.2020, GC (BN); 4 specs, Plaiul Foii, ca 850 m, Piatra Craiului Mts, 12.07.1990, RS&IM (BV); 7 specs, Valea Drăganului [Poieni], 7.08.1989, RS&DR (CJ); 2 specs, Băile Herculane, 10.07.1996, MȘP (CS); 3 specs, Negurenii forest, 21.05.1994, CH (CT); 1 spec., Comana, 5.05.1951, NS (GR); 2 specs, Colibi forestry chalet, Săpânța, 9–10.07.1996, IM; 2 specs, Mara, Desești, 1 km upstream on Mara river, 22.07.1998, CP; 1 spec., Mara, Pleșca chalet, 22.07.1998, IM; 19 specs, Poienile de sub Munte, ca 500 m downstream of Rica–Budescu confluence, 14.06.2003, RS; 1 spec., Țibleș Mts, Săliște, Idișor valley, 23.06.2003, RS; 6 specs, Vaser valley, between Bardău and Cozia train stops, 22.07.2004, CP; 22 specs, Maramureș Mts, Făina valley, surroundings Făina train stop, 22.07.2004, RS; 1 spec., Preluca, 12.06.2007, CP (MM); 1♂, Borsec, 12.06.1966, XS (MS); 1 spec., Bicaz, 9.06.1949, IC (NT); 1 spec., Piatra Arsă, Bucegi Mts, 13.08.1969, AR (PH); 3 specs, Poiana Neamțului, 19.07.1985, IM; 1 spec., Bălea waterfall, Făgăraș Mts, 24–25.07.1994, CP; 3 specs, Dobra valley, 16.08.2014, CA (SB); 4♂, 1♀, Lăptoace, Tarcău, 13.07.1949, IC; 1♂, 1♀, Ilișești, 20.05.1950, IC; 1 spec., Broșteni, Drăgoiasa, 26.07.1958, IC; 1 spec., Broșteni, Neagra stream, 5.05.1959, IC; 3 specs, Broșteni, Lăcătușu stream, 5.08.1959, IC; 1 spec., Poiana, 15.08.1963, IC; 1♂, Pojorâta, Valea Putnei, Fieru Monastery, 23.07.1965, IC; 1 spec., Bancu, Poiana Coșnei, 22.07.1967, IC; 1 spec., Demăcușa, Moldovița, 20.07.1979, IC; 1 spec., Secrieș–Moldovița, 9.08.1982, IC; Pojorâta, Valea Putnei: 1♂, 26.06.1973, IC; 1 spec., 28.05.1985, IC (SV); 2 specs, Căineni, 07.1950, NS; 1♂, 1♀, Voineasa, 1.08.1990, MȘP; 2 specs., Valea Mărului, Rudari valley, 24.07.2015, CC (VL); 1 spec., Retezat National Park, Rotunda chalet, 8.08.1994, VB. (Fig. 1)

**Records:** Oravicza [Oravița] (Frivaldszky 1875–1876); frequent in mountainous regions (Kuthy 1896); Zibins-Gebirge [Cibin Mts], Kerzer Gebirge [Făgărașului Mts], Fogaras [Făgăraș], Kronstadt [Brașov], Nussbach [Măieruș], Bükszád [Bixad], Borszék [Borsec], Maros-Gebirge [Mureșului Mts], Mediasch [Mediaș] (Bielz 1887); Azuga (Fleck), Broșteni (Montandon) (Fleck 1905a); wide-spread (Petri 1912); Domogled





**Figure 1.** Distribution of *Lygistropterus sanguineus sanguineus* based on examined material.

(Marcu 1928); Vinului valley, Saca valley (Csiki 1951); Cugir Mts, Tărtăria; Nemira Mts, 1300 m; Gurghiului Mts, Lunca Bradului; Călimani Mts; Făgăraşului Mts (Szél et al. 1995); Bistra valley, Smereca (Poiana), 765 m (Niţu 2008).

**Distribution:** Europe: Albania, Austria, Belarus, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Lithuania, Macedonia, Moldavia, The Netherlands, Norway, Poland, Portugal, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine; Asia: Russia (East and West Siberia, Far East) (Bocáková and Bocák 2007).

Subfamily Erotinae LeConte, 1881

Tribe Erotini, LeConte, 1881

*Dictyoptera aurora* (Herbst, 1784)

**Examined material:** 2 specs, Azuga, coll. EF; 1 spec., Buşteni, DV; 1 spec., Hohe Rinne [Păltiniş], coll. FD; 1 spec., Kronstädter Gbg. [Braşov Mts], coll. FD; 1 spec., Ludwigsdorf, coll. DK; 3 specs, Rodnaer G.[ebirge], Tr.[ansylvania], subalpin, coll. FD; 2 specs, Schuler [Postăvarul] G.[ebirge], coll. FD (CPC); 4 specs, Padiş, Apuseni Mts, ca 1280 m, 1.07.1976, IN; 1 spec., Padiş, Apuseni Mts, Ponor clearing, forest, ca 1200 m, 2.07.1976, GA (BH); 1 spec., Braşov, IC; 1 spec., Predeal, Fraga camp, 6.07.2004, VU (BV); 1 spec., Bucharest, 21.06.1997, MŞP (B); 1 spec., Şardului valley, 9–10.06.1971, ID (CJ); 3 specs, Craiova, 24.09.1964, leg. unknown (DJ); 1 spec., Bălan mines, 5.10.1967, EM (HR); 2 specs., Piatra Arsă, Bucegi Mts, 18.07.1974, DD



(PH); 3 specs, Frasin, 1.06.1978, IC; 2 specs, Deia cottage, Câmpulung Moldovenesc, 27.05.1953, IC; 1♀, Paltinu, 22.05.1958, IC (SV); 4 specs, Timișoara, 06.1950, NS (TM); 1 spec., Letea forest, C.A. Rosetti, 12.05.1964, leg unknown (TL); 1 spec., Tulnici, 22.07.1962, AR; 1 spec., Lepșuleț, 12.05.1972, DL (VN); 1 spec., Saca Mare Mt., Gurghiu Mts, 18.VII.1964, leg. unknown; 1 spec., Retezat Mts, Șaua Găuroane, 28.06.1976, DG. (Fig. 2)

**Records:** Valea-Vinului, Montes Cibirenses et Kerczenses [Cibin Mts and Făgăraș Mts], Brassó [Brașov], Mons Keresztényhavas [Postăvarul Mt.], Gy-Tölgyes [Tulgheș] (Kuthy 1896); Azuga (Fleck), Broșteni, Sinaia (Montandon) (Fleck 1905a); Zibins-Gebirge [Cibin Mts], Kerzer Gebirge [Făgăraș Mts], Kronstadt [Brașov] (Bielz), Gyergyő-Tölgyes [Tulgheș] (Ormay) Bucsecs [Bucegi Mts] (Petri 1912); Rodna Gbg. [Rodna Mts], Hohe Rinne [Păltiniș] (Deubel 1925–1926); Rodna Mts, Vinului valley (Csiki 1951); Sighetu Marmăției, Pietrii Mts, Strunga Țiganului, 1000–1100 m (Zoltán 2008); Pietrosul Mare Mt., subalpine, 1795 m (Nitzu et al. 2008); Giumalău Mts, 1268 m (Nitzu and Olenici 2009).

**Distribution:** Europe: Albania, Austria, Belarus, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Italy, Latvia, Liechtenstein, Lithuania, Macedonia, Norway, Poland, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine; Asia: Russia (East and West Siberia, Far East), Japan, North Korea, South Korea; North Africa: Algeria; Nearctic Region (Bocáková and Bocák 2007).

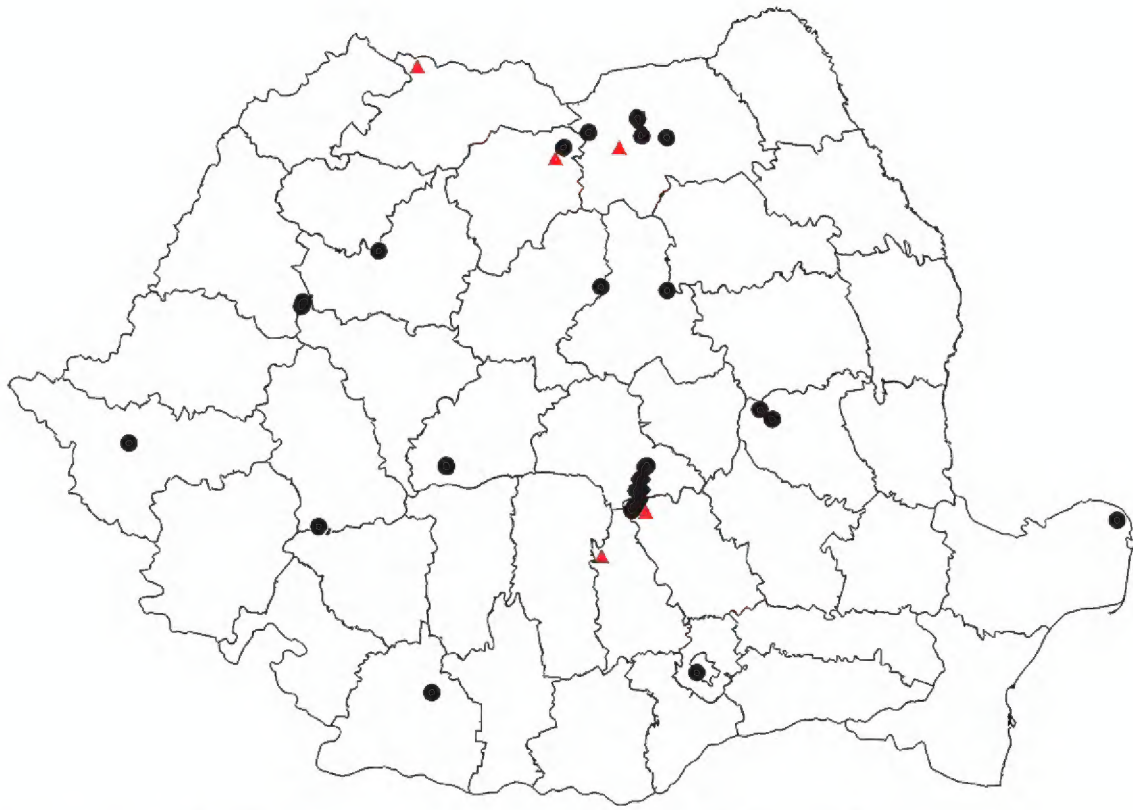
*Erotides (Glabroplatycis) cosnardi* (Chevrolat, 1831)

**Examined material:** 1 spec., Azuga, coll. EF; 1 spec., Tr.[ansylvania], Rodnaer G.[ebirge], coll. FD (CPC); 1 spec., Gemenea–Brătulești, 19.05.1961, AR (DB); 1 spec., Săpânța, Săpânța valley, 18.05.1996, forest (beech, hornbeam, black alder), DR (MM); Pojorâta, Valea Putnei: 1 spec., 25.05.1983, IC; 1 spec., 28.05.1985, IC; 1 spec., 30.05.1995, IC (SV).

**Records:** Montes Cibirenses et Radnaenses [Cibin Mts and Rodna Mts], Herculesfürdő [Băile Herculane] (Kuthy 1896); Azuga (Montandon) (Fleck 1905a); Broșteni (Montandon 1906); Zibins-Gebirge [Cibin Mts] (Bielz); Rodna Gebirge [Rodna Mts] (Deubel); Hermannstadt [Sibiu] (Müller) (Petri 1912); Kronstadt [Brașov] (Deubel 1925–1926); Vajda-Hunyad [Hunedoara] (Petri 1925–1926); Western Plain (Roubal 1927–1928); Rodna Mts, Vinului valley (Csiki 1951). (Fig. 2)

**Distribution:** Europe: Albania, Austria, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Greece, Hungary, Liechtenstein, Macedonia, The Netherlands, Poland, Romania, Serbia and





**Figure 2.** Distribution of *Dictyopectera aurora* (black circle) and *Erotides cosnardi* (red triangle) based on examined material.

Montenegro, Slovakia, Sweden, Switzerland, Ukraine; Asia: Russia (West Siberia) (Bocáková and Bocák 2007).

*Lopheros (Lopheros) rubens* (Gyllenhal, 1817)

**Examined material:** 4 specs, Azuga, coll. EF; 1 spec., Präsbe [Prejba Mt., Lotrului Mts], coll. FD; 1 spec., Tr.[ansiyvania], Rodnaer G.[ebirge], coll. FD; (CPC); 2 specs, Rodna Mts, Anieşul Mic valley, 15.07.2020, GC (BN); 1♂, 1♀, Potoc, Ochiul Beiului Lake, 29.06.2020, on rotten trunk of conifer covered with moss, mating, MS (CS); 3 specs, Mraconia valley, 23.05.1966, on flowers, ŞN (MH); 1 spec., Ardeluţa, Tarcău, 24.05.1949, IC; 2 specs, Piatra Neamţ, 26.05.1973, IC (NT); 2 specs, Râu Sadului, Sădurel valley, 20.05.2015, EI&MS (SB); 3 specs, Broşteni, Neagra stream, 19.05.1958, IC; 1 spec., Paltinu, 26.05.1959, IC (SV); 1 spec., Piatra Craiului Mts, Berila valley (tributary of the river Dâmboviţa), 30.06.2002, CP. (Fig. 4)

**Records:** Vöröstorony [Turnu Roşu], N.-Csűr [Şura Mare], Brassó [Braşov], Mons Keresztényhavas [Postăvarul Mt.], Domogled Mt. (Kuthy 1896); Azuga (Fleck 1905a); Broşteni (Montandon 1906); Gross-Scheuern [Şura Mare], Kronstadt [Braşov] (Bielz); Rotenturm [Turnu Roşu] (Ormay); Schässburg [Sighişoara] (Petri 1912); Zernest [Zărneşti], Präsbe [Prejba Mt.] (Deubel 1925–1926); Rodna Mts, Vinului valley, Roşu valley, Valea Băilor valley (Csiki 1951); Borşa, Preluca Tătarilor, 1000



m; Ocna Sugatag, Igriş Mts, Poiana Brazilor, 1143 m; Săcel, Rodna Mts, Valea Izei, 850 m (Zoltán 2008).

**Distribution:** Europe: Austria, Belarus, Czech Republic, Finland, France, Germany, Hungary, Italy, Latvia, Liechtenstein, Poland, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine (Bocáková and Bocák 2007).

*Platycis (Platycis) minutus* (Fabricius, 1787)

**Examined material:** 1 spec., Azuga, coll. EF; 1 spec., Bodzaer-Gbg. [Buzău Mts], coll. FD (CPC); Stoenesti: 2 specs, 7.07.1990, MŞP; 4 specs, 29.06.1991, MŞP (AG); 1 spec., Vama Buzăului, 22.09.2020, OPP; 2 specs, Babarunca, Ciucaş National Park, 23.09.2020, OPP (BV); 1 spec., Râncă, Parâng Mts, ca 1600 m, 20–24.08.1970, DD (GJ); 1 spec., Cioclovina cu Apă cave, on the beech tree, near the entrance to the cave, 17.09.2021, MS (HD); 2 specs, Pojorâta, Valea Putnei, Tunel, 10.08.1982, IC (SV). (Fig. 3)

**Records:** Bisztratelep [Tău Bistra], Mons Szurul [Suru Mt.], Borszék [Borsec], Mons Domogled, Korniaréva [Cornereva] (Kuthy 1896); Poiana Coştilei (Hurmuzachi 1901; Fleck 1905a); Prahowath. [Prahova valley] (Fleck 1905a); Rodnagebirge [Rodna Mts] (Deubel) Bistra (Petri 1912); Rodna Mts (Csiki 1951); Breţcului Mts, Comandău (Szél et al. 1995); Ocna Sugatag, Igriş Mts, Poiana Brazilor, 1143 m (Zoltán 2008).

**Distribution:** Europe: Austria, Belgium, Bosnia Herzegovina, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Ireland, Italy, Latvia, Liechtenstein, Norway, Poland, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine; Asia: Russia (East and West Siberia, Far East), Japan (Bocáková and Bocák 2007).

*Pyropterus nigroruber* (De Geer, 1774)

**Examined material:** 1 spec., Azuga, coll. EF; 1 spec., Bodzaer-Gbg. [Buzău Mts], coll. FD (CPC); 1 spec., Săpânţa, Colibi forestry chalet, 12.07.1996, IM (MM); 1 spec., Cumpătu Mt., Sinaia, 7–8.07.1968, DD (PH); 1 spec., Valea Putnei, Nistor stream, 1.08.1980, IC; 1 spec., Putna Mică river, forest, 14.07.1981, IC; 1 spec., Pojorâta, Valea Putnei, 28.05.1985, IC (SV). (Fig. 3)

**Records:** Broşteni (Montandon 1906, under the name *P. affinis* Payk.); Rodnagebirge [Rodna Mts] (Deubel); Szélkapu [Szélkapu Hill, Covasna] (Méhely) Bistra, Schässburg [Sighişoara]; (Petri 1912, as *P. affinis* Payk.); Kronstadt [Braşov], Bodza Gbg. (Tészla)



[Buzău Mts, Tesla Mt.] (Deubel 1925–1926); Rodna Mts (Csiki 1951); Călimani National Park (Lotrean and Manu 2015).

**Distribution:** Europe: Austria, Belarus, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Great Britain, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Macedonia, Norway, Poland, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Spain, Sweden, Switzerland, Ukraine; Asia: Russia (East and West Siberia, Far East), Japan (Bocáková and Bocák 2007).

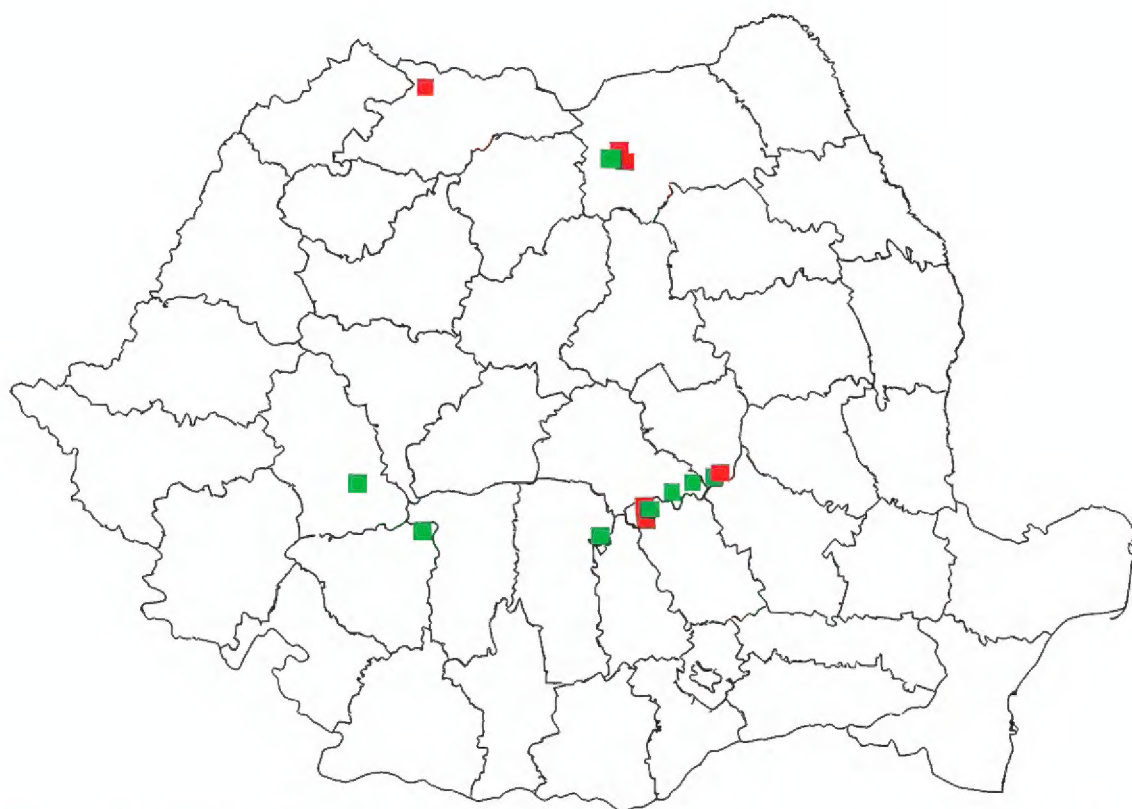
Family Elateridae Leach, 1815

Subfamily Omalisinae Lacordaire, 1857

*Omalisus* (*Omalisus*) *fontisbellaquaei* Geoffroy, 1785

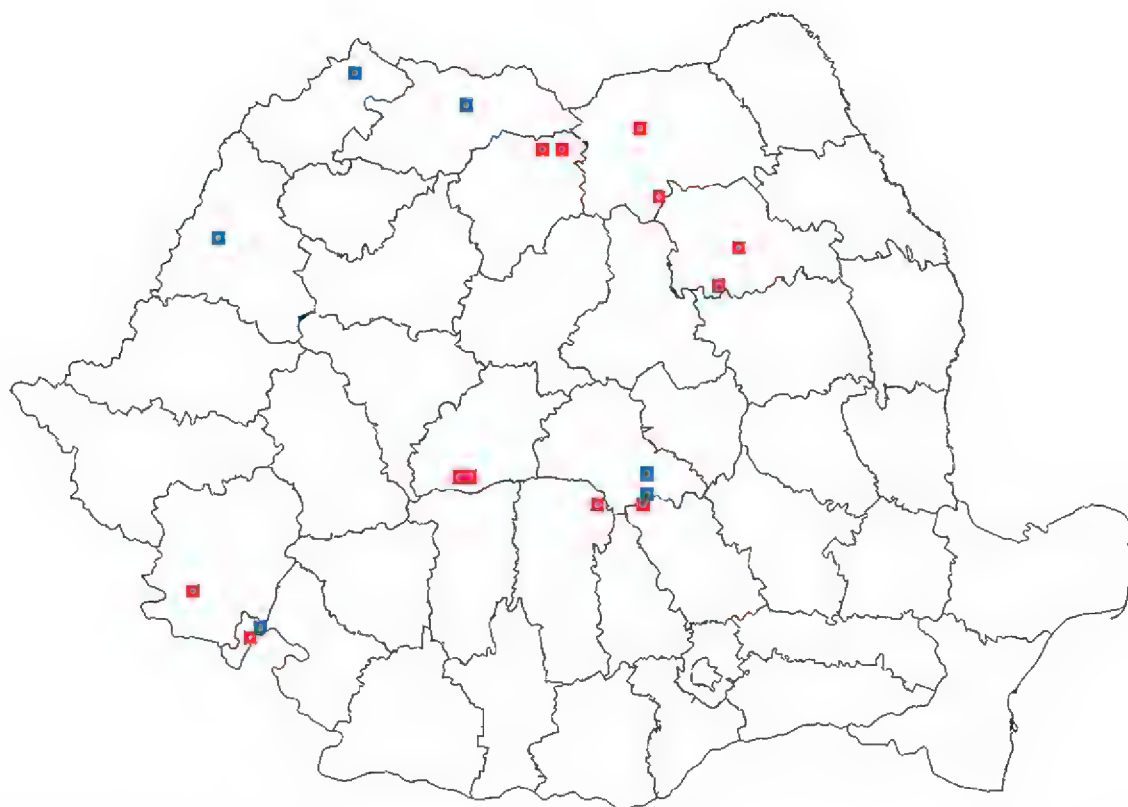
**Examined material:** 2♂, Predeal, coll. EF; 2♂, Kapellenberg [Tâmpa Mt.], coll. FD (BV); 2♂, without collecting data, coll. DK (CPC); 1♂, Băile Episcopiei (Băile 1 Mai), 06.1954, IS (BH); 1♂, Eşelnița valley, 6.06.1970, XS (MH); 1♂, Strâmtura, Slătioarei valley, Berșotă, 3.07.1995, IM (MM); 2♂, Turulung-Vii, 13.06.1985, RS (SM). (Fig. 4)

**Records:** Szászka [Sasca Montană] (Frivaldszky 1875–1876); frequent in mountainous regions (Kuthy 1896); Prahowath. [Prahova valley] (Montandon) (Fleck 1905a); Hätszeg [Hațeg], Gross-Scheuern [Șura Mare], Fogarasch [Făgăraș], Kronstadt [Brașov], Maros-Gebirge [Mureș Mts] (Bielz), Gyergyö-Tölgyes [Tulgheș] (Ormay),



**Figure 3.** Distribution of *Platycis minutus* (green square) and *Pyropterus nigroruber* (red square) based on examined material.





**Figure 4.** Distribution of *Lopheros rubens* (red square) and *Omalisus fontisbellaquaei* (blue square) based on the examined material.

Hermannstadt [Sibiu] (Albrecht), Bistritz [Bistrița] (Müller), Frecker Gebirge (Șerbota), Schässbürg [Sighișoara] (Petri 1912); Kerzergeb. (Buteanu, 1100 m) [Făgărașului Mts, Buteanu Mt] (Petri 1925–1926); Vinului valley, Roșu valley (Csiki 1951); Nemira Mts, 1300 m (Szél et al. 1995); Săpânța, Pietrii Mts, Mireș, 800 m (Zoltán 2008); Motru Sec, Lazului area (Nitzu 2018).

**Remarks:** Only males are preserved in the MGAB Coleoptera collection. Adult males are able to flight, while the female of this species has only vestigial elytra and hind wings and has a cryptic way of life (Bocák and Brlik 2008).

**Distribution:** Europe: Austria, Belarus, Belgium, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Italy, Liechtenstein, The Netherlands, Poland, Romania, Slovakia, Slovenia, Spain, Switzerland, Ukraine; Asia: Turkey (Bocák 2007).

Family Pyrochroidae Latreille, 1807  
Subfamily Agnathinae Lacordaire, 1859  
*Agnathus decoratus* (Germar, 1818)

**Examined material:** 1 spec., Hațeg, coll. DK (HD) (CPC). (Fig. 5)

**Records:** B[oros]-Sebes [Sebiș, Arad], Tasnád [Tășnad], Hátszeg [Hațeg] (Kuthy 1896); Hätszeg (Bielz) (Petri 1912, placed in Lagriidae, Agnathini), Băile Herculane,



near Cerna river, 1932, K. Dorn leg., many spec. (Horion 1956 in Jelínek and Kubán 2009).

**Remarks:** In Romania the species is known only through very old records, including the specimen from the Collection of Palaearctic Coleopterans dating from the end of the 19<sup>th</sup> century (in 1883 a part of the Deszö Kenderessy collection was bought). Unfortunately, no other specimen was identified in the so-called study collection.

**Distribution:** Europe: Austria, Belarus, Bosnia Herzegovina, Bulgaria, Croatia, Czech Republic, France, Georgia, Germany, Hungary, Italy, Luxembourg, Poland, Romania, Russia (South European Territory), Slovakia, Slovenia, Switzerland, Ukraine; Asia: Turkey (Pollock and Young 2008; Young et al. 2020); Greece (Konvička 2017).

Subfamily Pyrochroinae Latreille, 1807

*Pyrochroa coccinea* (Linnaeus, 1760)

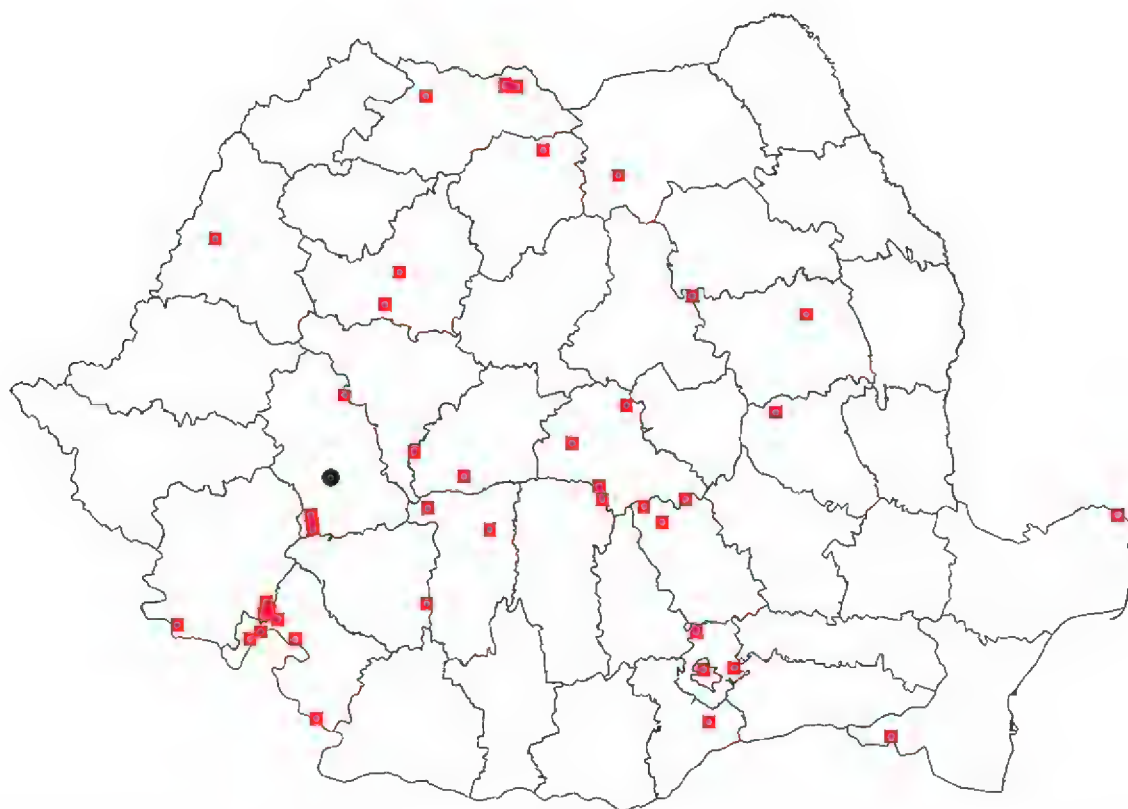
**Examined material:** 1♀, Pitești, 9.05.1961, NS (AG); 1♀, Bucharest, coll. ALM (B); 1♂, 2♀, Comana forest, coll. ALM (GR); 1♀, Periș, RC (IF); 1♀, Eșelnița valley, 19.06.1970, AR (MH); 1♂, Azuga, coll. EF (PH); 1♂, 2♀, without collecting data, coll. DK (CPC); 1♂, 2♀, Fântânele Hill, 18.06.2015, LM (AB); 1♂, Bacău, 18.06.1971, AR (BC); 2♂, Băile Felix, 1911, EV (BH); 1♂, 2♀, Rodna Mts, Anieșul Mic valley, 15.07.2020, GC (BN); 1♂, Făgăraș, 17.05.1962, XS; 1♂, Racoș, 4.06.1993, LS (BV); 1♂, Baci, 7.06.1965, IC; 1♀, Frăsinet, Valea Ierii, 19.06.2012, MS (CJ); Băile Herculane: 5♂, 1950, EV; 2♀, 2.07.1967, NS; 1♀, 25.05.1982, VB; Topleț: 1♀, Piatra Podului, 24.05.1966, on flowers, ȘN; 1♀, Bârza–Domogled road, 9.07.2015, MS; Moldova Nouă: 1♂, 26.05.1971, NS; 2♀, 27.06.1971, NS (CS); Canarua Fetii, Băneasa: 1♂, 18.05.1993, CP; 1♀, 19.05.1993, AP (CT); 1♀, Piscoiu, Stejari, 15.05.2015, GC (GJ); 1♀, Poiana, Metaliferi Mts, 2.07.1980, GA; 1♀, Gura Zlata, Gemenele Reserve, Retezat National Park, 3.07.2015, GC (HD); Pasărea forest: 2 specs, 30.04.1953, NS; 1♀, 21.05.1954 NS; 1♀, 12.05.1955, NS (IF); 1♂, [Drobeta]–Turnu Severin, 12.07.1962, NS; 1♂, Eșelnița, 14–20.06.1969, APG; 2♀, Vrata forest, Gârla Mare, 25.05.1963, NS; 1♂, Mraconia valley, 23.05.1976, on flowers, ȘN; 1♀, Bahna, 10.06.2015, ca 260 m, 44°48.606'N, 22°30.72'E, MS (MH); 1♀, Repedea, forestry chalet, 26.06.1997, CP; 1♂, Elmo clearing, 2 km upstream from Repedea, 24.07.1997, RS; 1♀, Ocna Șugatag, Pleșca chalet, 17.07.1998, APe; 2♂, 1♀, Poienile de sub Munte, Coșnea forestry chalet, 16.06.2003, RS&CP (MM); 1♀, Ciucaș Mts, Berii valley, 06.1953, leg unknown; 1♂, Trăiseni, Valea Doftanei, 26.04.1994, CP (PH); 1♂, 1♀, Râu Sadului, Sadu valley, 20.05.2015, EI (SB); 1♀, Vatra Dornei, 01.05.1950, NS (SV); 1♂, 1♀, Periprava, Danube Delta, 29.07.1967, NS (TL); 1♀, Lotru valley, Puru colony, 11.07.1966, MV; 1♀, Cozia National Park, 22.05.2015, CC (VL); 1♀, Rucăreni, Soveja, Șușița valley, 20.05.2014, MiS (VN); 1♂, Tarcău Mts (Transylvania), 24.05.1949, IC; Piatra Craiului National Park: 1♂, Valea cu Apă, upstream from Brusturet cottage, 23.06.2005, CB; 1♂, Plaiul



Foii, 30.05.1990, IM; 1♀, Retezat National Park, Lăpușnicu Mare valley, 17.06.2019, 45°18.642'N, 22°47.628'E, EI. (Fig. 5)

**Records:** Oravicza [Oravița] (Frivaldszky 1875–1876); Hätszeg [Hațeg], Godinest [Godinești, Zam], Reussmarkt [Miercurea Sibiului], Zibins-Gebirge [Cibin Mts], Kerzer Gebirge [Făgărașului Mts], Grossschenk [Cincu], Fogarasch [Făgăraș], Kronstadt [Brașov], Mediasch [Mediaș], Schässbürg [Sighișoara], Sächsisch-Regen [Reghin], Bistritz [Bistrița], Deés [Dej] (Bielz 1887); frequent (Kuthy 1896); Comana (Hurmuzachi 1904); Azuga, Babadag (Fleck); Bucarest [Bucharest] (Montandon) (Fleck 1905b); Broșteni, Comana (Montandon 1906); widespread in mountainous areas (Petri 1912); Vinului valley, Roșu stream valley (Csiki 1951); timber yard and windfall area at the end of forest road Bratcu (Bussler et al. 2005); Tinovul Băiței (Nițu 2008); Archita, Daneș, Valea Stejerenii, Viscri (Istrate 2016); Săpânța, Livada, Pericloster, 400 m (Szalóki and Németh 2008); Meseș Mts, Poic (Szalóki 2016); Frumoasa Site of Community Importance (ROSCI0085) (Stan et al. 2016).

**Distribution:** Europe: Austria, Armenia, Belarus, Belgium, Bosnia Herzegovina, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Great Britain, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Russia (Central, North, South



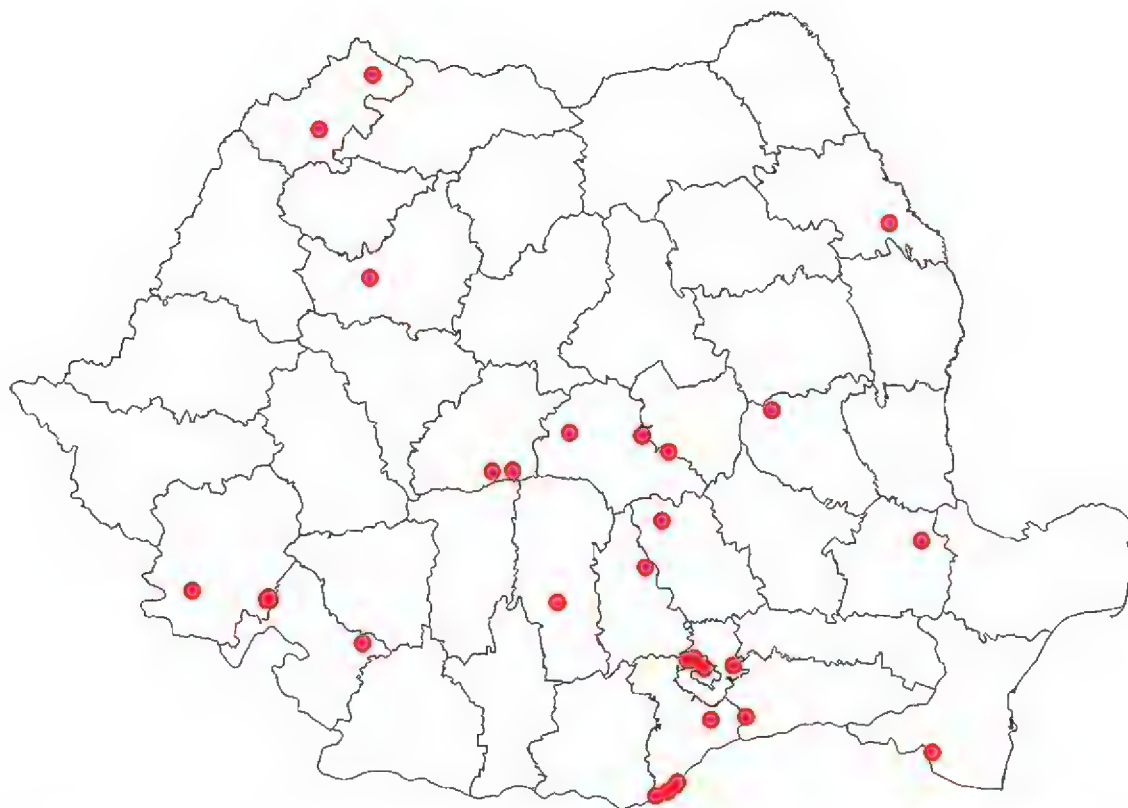
**Figure 5.** Distribution of *Agnathus decoratus* (black circle) and *Pyrochroa coccinea* (red square) based on examined material.



European Territories), Slovakia, Slovenia, Spain, Sweden, Switzerland; North Africa: Algeria (Pollock and Young 2008; Young et al. 2020).

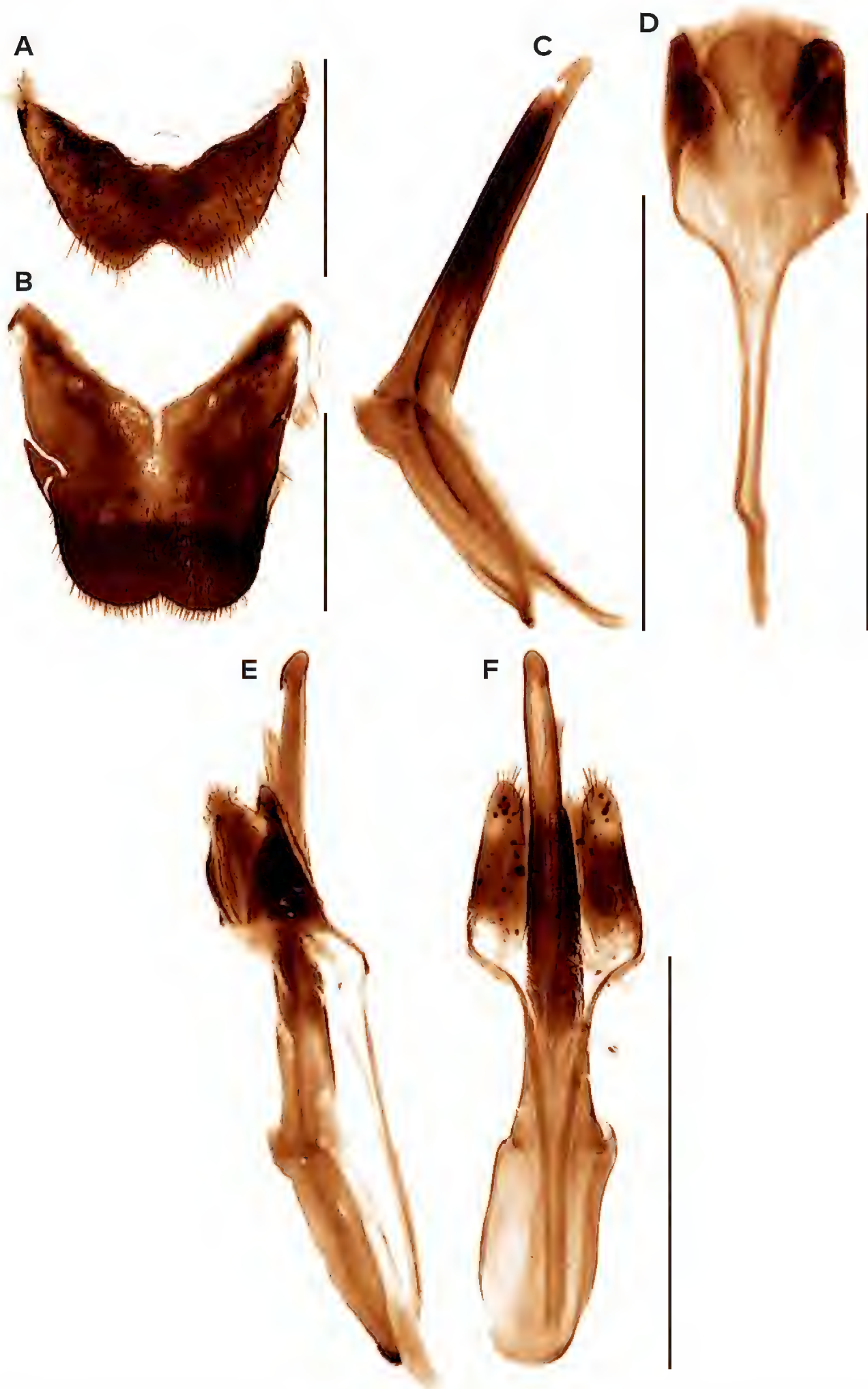
*Pyrochroa bifoveata* Molfini, Mancini & Bologna, 2022 (Figs 6–8)

**Examined material:** 1♂(d), 1♀, Bucharest, 18.06.1958, AR (B); 1♀, Lacu Sărat, 28.05.1955, NS (BR); 1♂(d), Făgăraş, 18.05.1962, XS; 1♂(d), Rotbav, 20.05.1996, MŞP; 1♀, Lunca Călnicului, Prejmer, 14.05.2015, CC (BV); 1♂(d), Agârbiciu, 46°45.509'N, 23°16.547'E, 17.05.2021, AD (CJ); 1♀, Crivăţ, 4.05.1953, XS (CL); Băile Herculane: 1♀, 12.05.1961, NS; 1♂(d), 10–20.05.1968, IsC; 1♀, 25.06.1970, AR; Cerna valley: 3♂(d), 10.05.1994, VB; 1♂, 12.06.1994, VB; 4♂, 1♀, Domogled Mt., 2.06.1965, ID&APG; 1♂, Bei valley (Ochiul Beiului Lake–Beuşniţa waterfall road), 14.05.2002, MS (CS); Furnica, Dumbrăveni, forest: 1♀, 15.05.1994, MiS; 1♂(d), 18.05.1994, CH (CT); Valea Lungă–Cricov: 2♀, 26.05.1967, AR; 1♂(d), 28.05.1967, AR (DB); 2♂(d), 1♀, Cetăţuia, Găujani, km 518 on the dike, 26.04.2004, MS; 1♀, Malu, km 502 on the dike, 27.04.2004, CP; 1♂, 1♀, Pietroşani, km 521 on the dike, 28.04.2004, MS; 1♂(d), Cama Islet, km 510 on the Danube, 29.04.2004, MS; 1♂, 1♀, Comana, 2.06.2019, EI (GR); 1♀, Pasărea forest, 21.05.1954, NS; 1♂, Mogoşoaia, 10.05.1955, AR; 2♀, Râioasa forest, Chitila, 8.05.1979, GA&ID (IF); 1♂(d), Bârnova, 01.05.1950, NS (IS); 2♂(d), Strehaia, 17.05.1982, DD (MH); Trăiseni, Valea Doftanei: 1♀, 25.06.1994, AP; 1♂, 1♀, 28.06.1994, GA (PH); 1♂, Turnu Roşu, 13.05.1986, IM; 2♂, Poiana Neamţului,



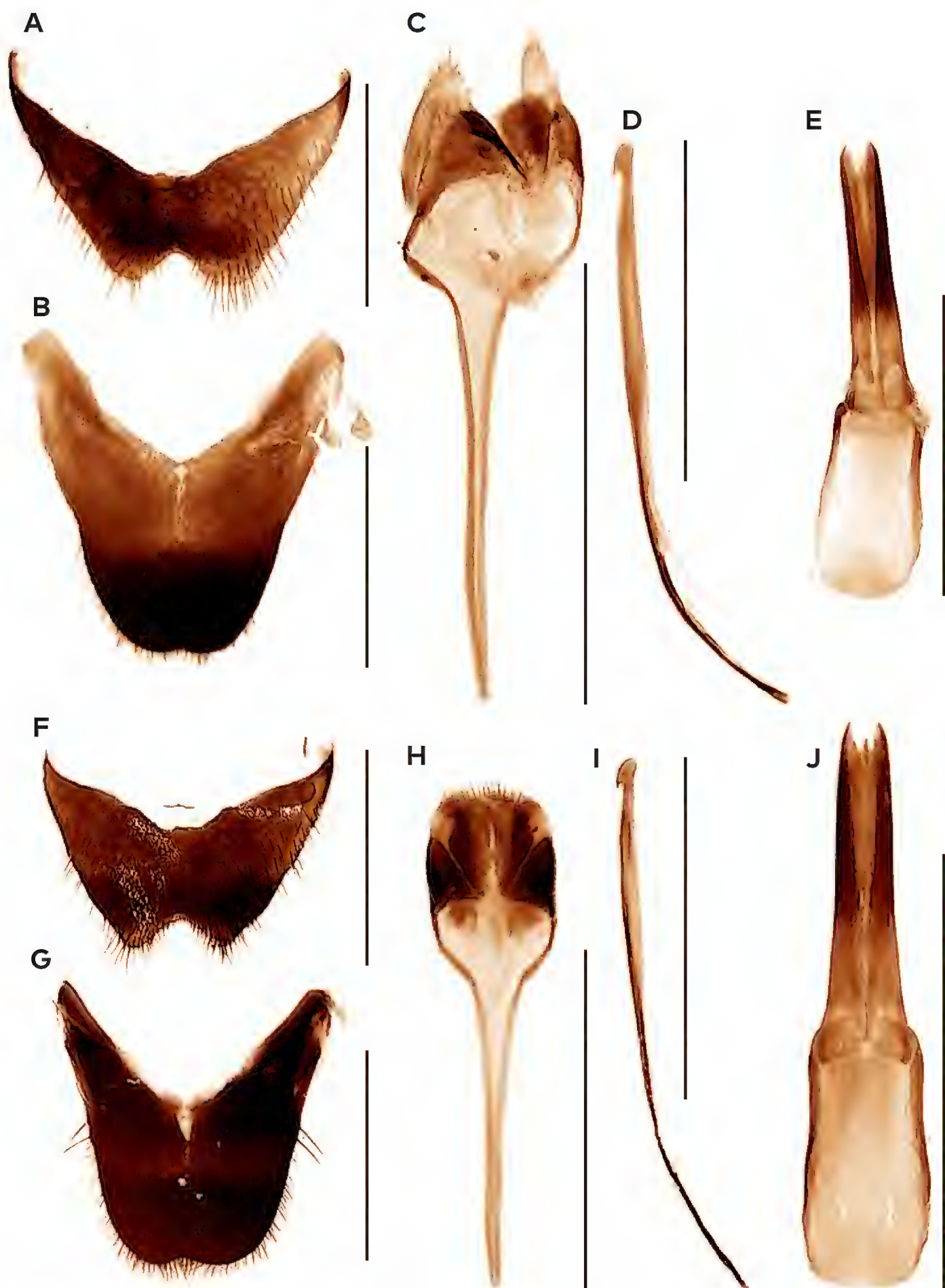
**Figure 6.** Distribution of *Pyrochroa bifoveata* based on examined material.





**Figure 7.** *Pyrochroa bifoveata*: **A** sternite VIII; **B** tergite VIII; **C** tegmen and penis, lateral view; **D** sternite and tergite IX-X, dorsal view (male, Bucharest); **E** tegmen, penis, sternite and tergite IX-X, lateral view; **F** tegmen, penis, sternite and tergite IX-X, ventral view (male, Furnica, Dumbrăveni, Constanța). Scale bars: 1 mm (A, B); 2 mm (C, D, E, F).





**Figure 8.** *Pyrochroa bifoveata*: **A** sternite VIII; **B** tergite VIII; **C** sternite and tergite IX-X, dorso-lateral view; **D** penis, lateral view; **E** tegmen, ventral view (male, Făgăraș, Brașov); **F** sternite VIII; **G** tergite VIII; **H** sternite and tergite IX-X, dorsal view; **I** penis, lateral view; **J** tegmen, dorsal view (male, Călinești Oaș, Satu Mare). Scale bars: 1 mm (A, B, F, G); 2 mm (C, D, E, H, I, J).



15.05.1986, IM (SB); Cerhat forest: 1♂, 17.05.1962, IC; 1♂, 23.05.1962, IC; 1♂(d), 1♀, Călinești Oaș, 21.05.1987, RS (SM); 4♂(d), Soveja, Rucăreni, 20.05.2014, CC (VN).

**Remarks:** *Pyrochroa serraticornis serraticornis* (Scopoli, 1763) is mentioned for Romania in old catalogues and faunistic papers published to date. *P. s. serraticornis* and *P. bifoveata* represent two highly similar cryptic species, distinguishable on the basis of both genitalia and larval morphology (Molfini et al. 2021). I have studied the genitalia of fourteen males and the specimens belong to *P. bifoveata*.

**Distribution:** Europe: Austria, Czechia, Germany, Great Britain, Switzerland (Molfini et al. 2023).

*Schizotus pectinicornis* (Linnaeus, 1758)

**Examined material:** 1♀, Azuga, Carpathes, Valachie, coll. ALM; 2♀, 2♂, Azuga, coll. EF (PH) (CPC); 1♀, Piatra Craiului National Park, Dâmbovicioara, Valea cu Apă, upstream from Brusturet cottage, 23.06.2005, RS (AG); 1♀, Poiana Smerecenii, 7 km upstream from Repedea, 22.08.1997, CP (MM); Ardeluța, Tarcău: 1♂, 24.05.1949, IC; 1♀, 24.05.1949, IC (NT); 1♀, Sibiu, Dumbravă, 18.05.1953, leg unknown (SB); 1♂, Broșteni, Omului stream, 21.05.1958, IC; Valea Putnei, meadow: 1♂, 28.05.1980, IC; 1♀, 2.07.1981, IC; 1♂, Valea Putnei, grasses, 23.05.1983, IC; 3♂, Valea Putnei, swamp, 28.05.1985, IC; 1♀, Câmpulung Moldovenesc, Valea Caselor, 10.06.1984, IC (SV). (Fig. 9)

**Records:** Segesvár (Sighișoara), Mons Keresztényhavas [Postăvarul Mt.], Domogled Mt. (Kuthy 1896); Azuga (Fleck), Sinaia (Montandon) (Fleck 1905b); Broșteni (Montandon 1906); Retezat [Retezat Mts], Zibins-Gebirge [Cibin Mts], Kerzer Gebirge [Făgărașului Mts] (Bielz), Schulergebirge [Postăvarul Mt.], Rodnagebirge [Rodna Mts] (Deubel); Schässbürg [Sighișoara], Hermannstadt [Sibiu] (Petri 1912); Vinului valley, Rodna Mts (Csiki 1951); Săpânta, Pietrii Mts, Mireș, 800 m (Szalóki and Németh 2008); Stejererii, Criș, Valea Daia, Viscri (Istrate 2016); Huta, Meseș Mts, Poic (Szalóki 2016).

**Distribution:** Europe: Austria, Belarus, Belgium, Bosnia Herzegovina, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, The Netherlands, Norway, Poland, Romania, Russia



(Central, North European Territories), Slovakia, Spain, Sweden, Switzerland (Pollock and Young 2008; Young et al. 2020).

Family Prostomidae C.G. Thomson, 1859

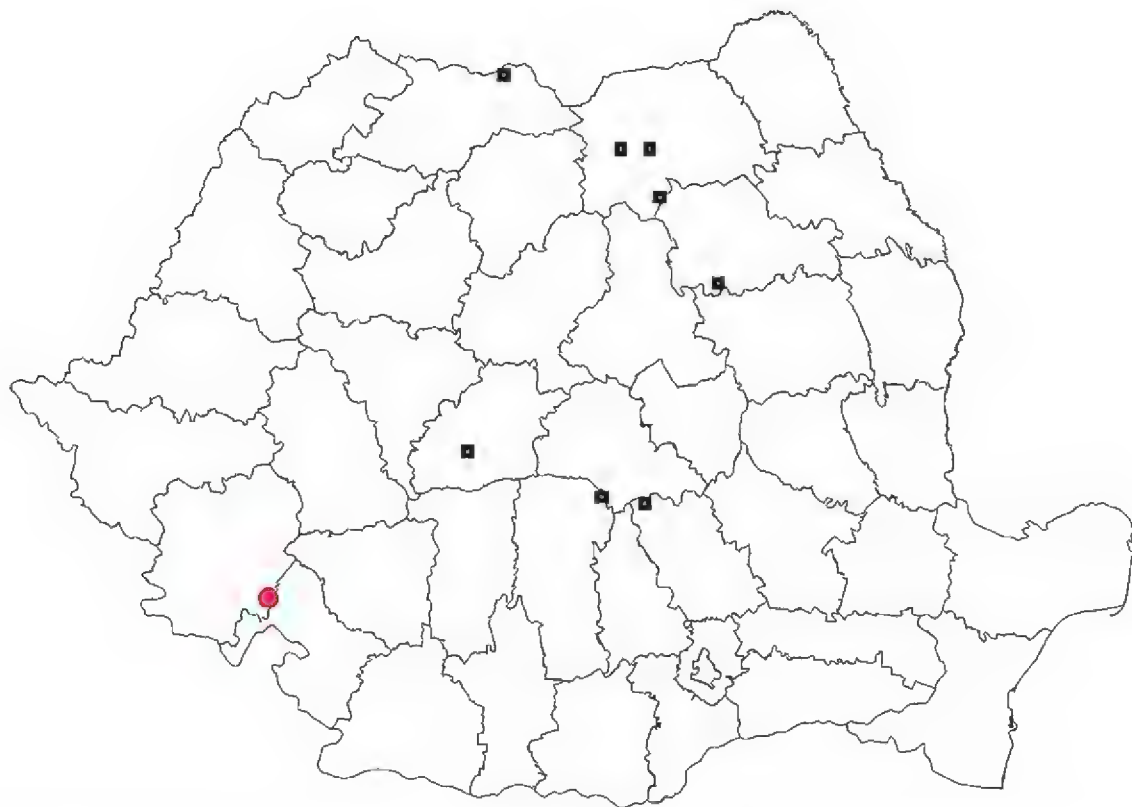
*Prostomis mandibularis* (Fabricius, 1801)

**Examined material:** Băile Herculane: 11 specs, 5.11.1961, NS; 1 spec., 9.10.1970, NS (CS). (Fig. 9)

**Records:** N-Szeben [Sibiu], Gy-Tölgyes [Tulgheș], Orșova, Mehadia (Kuthy 1896); Hermannstadt [Sibiu], Kastenholz [Cașolț] (Bielz); Schässbürg [Sighișoara] (in May, in large numbers in decaying oak trunks, including larvae) (Petri 1912); Cloșani (Marcu 1928); Periprava (Negru 1968); Orșova (Ienișteea 1975); Criș, Valea Daia, Fișer, Mihai Viteazul, Dealul Crepelor (Istrate 2016).

**Remarks:** The species is characteristic of decaying heartwood of rotting wood of forest and has conservation importance being indicator of old and well-preserved broad-leaved forests (Guéorguiev 2011). According to the IUCN European Red List of Saproxylic Beetle, it is listed as “Near Threatened” (Cálix et al. 2018).

**Distribution:** Armenia, Austria, Belarus, Bulgaria, Czech Republic, Denmark, France, Georgia, Germany, Greece, Hungary, Italy, Latvia, Macedonia, Poland, Portugal,



**Figure 9.** Distribution of *Schizotus pectinicornis* (black square) and *Prostomis mandibularis* (red circle) based on examined material.



Romania, Russia (European territory), Serbia and Montenegro, Slovakia, Spain, Sweden, Switzerland, Ukraine; Asia: Iran, Turkey (Schawaller 2020; Baena et al. 2021).

### **The checklist of Lycidae, Elateridae (Omalisinae), Prostomidae and Pyrochroidae in the MGAB collection**

Superfamily Elateroidea Leach, 1815

Family Lycidae Laporte, 1838

Subfamily Calochrominae Lacordaire, 1857

*Lygistopterus sanguineus sanguineus* (Linnaeus, 1758)

Subfamily Erotinae LeConte, 1881

Tribe Erotini, LeConte, 1881

*Dictyopectera aurora* (Herbst, 1784)

*Erotides* (*Glabroplatycis*) *cosnardi* (Chevrolat, 1831)

*Lopheros* (*Lopheros*) *rubens* (Gyllenhal, 1817)

*Platycis* (*Platycis*) *minutus* (Fabricius, 1787)

*Pyropterus nigroruber* (De Geer, 1774)

Family Elateridae Leach, 1815

Subfamily Omalisinae Lacordaire, 1857

*Omalisus* (*Omalisus*) *fontisbellaquaei* Geoffroy, 1785

Superfamily Tenebrionoidea Latreille, 1802

Family Prostomidae C.G. Thomson, 1859

*Prostomis mandibularis* (Fabricius, 1801)

Family Pyrochroidae Latreille, 1807

Subfamily Agnathinae Lacordaire, 1859

*Agnathus decoratus* (Germar, 1818)

Subfamily Pyrochroinae Latreille, 1807

*Pyrochroa bifoveata* Molfini, Mancini & Bologna, 2022

*Pyrochroa coccinea* (Linnaeus, 1760)

*Schizotus pectinicornis* (Linnaeus, 1758)

*Pyrochroa bifoveata* was added to the Collection of Palaearctic Coleopterans as was *Prostomis mandibularis*. During the period 2019–2023, a series of field trips took place between June and September to monitor Natura 2000 beetle species. Looking for adults and larvae of *Cucujus cinnaberinus* we also encountered larvae of fire-coloured beetles, which are much more common compared to those of *Cucujus*. I observed larvae of Pyrochroinae in different stages of development, even on the same fallen tree or log, and as adults, only three specimens of *Pyrochroa bifoveata* were collected. Three species of Lycidae were collected in the same period: *Lygistopterus sanguineus sanguineus*, *Lopheros rubens* and *Platycis minutus*. Finding these species with red elytra



or even with their entire body red led me to deepen my study of them by valorization of the Museum's collections.

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